

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION

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DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
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DAVID F. HALES, Director

Administrative Order 4-10-88, Amended

Order No. 4-10-88, which was issued April 10, 1989, and was effective May 1, 1989, provided for:

1. Wells allowed to produce for two (2) years from the effective date of the Order.
2. Initial production levels set at 110 barrels of oil per day and 175 Mcf of gas per day.
3. Establishment of a Reservoir Evaluation Committee comprised of staff of the Supervisor and operators of the field.
4. The Supervisor retains jurisdiction.

A meeting was held on May 8, 1989, at the offices of the Supervisor. Present were: Assistant Supervisor of Wells R. Thomas Segall, staff of the Supervisor and a number of working interest owners. Two items were discussed: initial production levels and role and makeup of the Reservoir Evaluation Committee.

The working interest owners brought forth information that a production level of 150 barrels of oil per day and 175 Mcf of gas per day would prevent waste as compared to 110 oil and 175 gas. At the higher oil production rate, efficiency would be maximized by less of a decrease in gas cap gas and providing for a potential incremental increase in oil production of 473,000 barrels of oil during a two-year period. This level of production should be evaluated at the end of one year.

The makeup and expectations of the Reservoir Evaluation Committee was discussed. The Committee would best be served if the composition would be expanded to include working interest owners in addition to operators and staff of the Supervisor. The Committee would organize, establish study methodology and collect necessary engineering and production data during the course of a two-year period. It was determined that a mid-course report would evaluate the performance of the field at the set allowable production rates and make appropriate recommendations to the Supervisor.

Now, Therefore, it is Ordered:

1. All wells are allowed to produce for two years from May 1, 1989. The initial allowable is raised from 110 barrels of oil per day and 175 Mcf of gas per day to 150 barrels of oil per day and 175 Mcf of gas per day.

2. The Reservoir Evaluation Committee may include representation of working interest owners as well as operators of the field and staff of the Supervisor. The Committee shall determine the study methodology, collect and evaluate necessary engineering and production data during the course of a two-year period. On a quarterly basis the Committee shall file with the Supervisor a report showing a compilation of the data and information collected. Approximately one year after May 1, 1989, the Committee shall make a mid-course evaluation of the performance of the field at the set allowable production rates and report such findings to the Supervisor for his consideration and action. This mid-course report shall include results of significant data collected and recommendations for changes, if any, in the operation of the field including proper rates of production of the field as well as efforts made toward unitization of the field.

Dated: 5/10/89



R. THOMAS SEGALL
ASSISTANT SUPERVISOR OF WELLS

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES

ORDER OF THE SUPERVISOR OF WELLS

IN THE MATTER OF

THE PETITION OF MARATHON OIL COMPANY,)
AS EXPANDED BY THE SUPERVISOR, TO)
CONSIDER AMENDING SPACING AND PRORATION)
ORDERS FOR THE STONEY POINT FIELD IN)
JACKSON AND HILLSDALE COUNTIES)

ORDER NO. 4-10-88

Effective: May 1, 1989

OPINION AND ORDER

On October 18, November 15 and December 20, 1988 a hearing was conducted before the Supervisor of Wells and the Advisory Board. The hearing was conducted pursuant to 1939 PA 61, as amended, and the promulgated rules. The purpose of the hearing was to consider the Petition of Marathon Oil Company, as expanded by the Supervisor, to consider amendment of Order No. 4-4-84 and (A) 12-3-85.

FINDINGS OF FACT

1. The Petitioner, Marathon Oil Company, is the operator of 41 oil and gas wells in the Stoney Point Trenton-Black River Formation Field in Jackson and Hillsdale Counties. Spacing, location and production within the field are regulated by Order No. 4-4-84 and (A) 12-3-85. Drilling units for the field are a quarter-quarter section of land consisting of approximately 40 acres. Wells may be located without proration penalty in the southeast quarter of the unit, other locations are subject to a reduced production rate. The full allowable for wells in the field is 150 barrels of oil and/or 230 Mcf of gas.

2. Petitioner requested a spacing amendment for 16 drilling units in the field, described as follows:

Jackson County
Hanover Township, T4S, R2W in Section 32, the SW $\frac{1}{4}$ SW $\frac{1}{4}$

Hillsdale County
Moscow Township, T5S, R2W
in Section 5, the NW $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$
and SE $\frac{1}{4}$ SW $\frac{1}{4}$
in Section 8, the NE $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, and
SE $\frac{1}{4}$ SE $\frac{1}{4}$
in Section 17, the NE $\frac{1}{4}$ NE $\frac{1}{4}$
in Section 16, the NW $\frac{1}{4}$ SW $\frac{1}{4}$ and SW $\frac{1}{4}$ SW $\frac{1}{4}$
in Section 21, the NE $\frac{1}{4}$ NW $\frac{1}{4}$

The petitioner has proposed that a second well be allowed on each unit and that lateral drain holes be allowed with full allowables for all wells. Several interested parties in the field participated in the hearing.

3. The lands originally subject to Order No. 4-4-84 were expanded by Supervisor of Wells Order No. (A) 12-3-85, effective May 29, 1985, so that the total lands now covered by Order No. 4-4-84, as amended, are as follows:

Jackson County
Hanover Township T4S, R2W Sections 6, 7, 17, 18, 19, 20, 29, 30, 31 and 32.

Polaski Township, T4S, R3W Sections 1, 2, 3, 4, 9 through 16, 22 through 26, and 36.

Hillsdale County
Moscow Township, T5S, R2W Sections 4 through 10, 15, 16, 17, 20, 21, 22, 23, 26, 27, 28, 29, 34, 35 and 36.

Scipio Township, T5S, R3W Section 1

Adams Township, T6S, R2W Sections 1 and 2 and 12

4. The Supervisor expanded the Notice of Hearing to consider the application of Petitioner's proposals to all the lands currently spaced under Order No. 4-4-84, as amended.

5. The Stoney Point Trenton-Black River Formation Field is a northwest-southeast trending field lying in Jackson and Hillsdale Counties, which runs parallel to the Albion and Scipio Trenton-Black River Formation Fields lying in Calhoun, Jackson and Hillsdale Counties two to five miles to the west. The Trenton-Black River in both the Stoney Point Field and Albion-Scipio is highly fractured and heterogeneous, and characterized by a rare synclinal structure. Stoney Point and Albion-Scipio are geologically analogous. Evidence of heterogeneity in Stoney Point presented by the Petitioner included the high number of wells (29) which have required a kick or location change in order to encounter productive rock; the two distinct fluid contacts which are found in the field; and in the fact that, contrary to earlier belief, field pressure is not declining uniformly.

6. Petitioner presented a geological model of the Trenton-Black River Formation to explain Petitioner's interpretation of how the reservoir works. This model depicts the reservoir in the Stoney Point Field and Albion and Scipio Fields as consisting of elongated, narrow compartments running parallel to the local fracture trend, the boundaries or edges of which form barriers to the drainage of oil, thus limiting the area that any one well bore can efficiently drain. These compartments were created as a result of the relationship between

the occurrence of fractures in the reservoir and the development of porosity. Porosity is well developed along the fractures in the field, but not as well developed in the limestone lying between the fractures.

The compartment explanation is but one of several potential explanations for the nature and character of the reservoir. The problem with the compartment explanation is that it implies separate sources of oil and gas. Several facts are in conflict with that conclusion. The experience of high recoveries of oil from fairly dense well spacing in Albion-Scipio is an indicator of communication and flow of oil through the fracture system rather than isolated pockets. The questionable success of lateral drain holes, while supporting the parallel fracture theory, has not shown large pockets of unrecovered oil. The placement of a well in an optimal position on the fracture system seems to be the most important factor in recovering reservoir products; thus, drainage patterns are complex, varied and unpredictable. Spacing and location requirements, based on the assumption of uniform drainage, become somewhat irrelevant in the development of a field such as Stoney Point. The ideal development of this field is not along artificial survey boundaries, but in a manner consistent with the fracture development.

7. The geologic assessment leads the Petitioner to the conclusion that doubling the well density and the allowable for each unit will, without waste, substantially increase the ultimate recovery of oil. The compartment theory advanced as support for greater well densities also argues against them. Any spacing pattern with significant no-drill areas such as 660 between wells on different units and 460 between wells on the same unit must lead to significant dry holes and leave major fractures untouched. Those opposed to the Petitioner expressed concern that they would be obligated to offset additional wells. While I believe their motive to be primarily economic, the geologic facts support this concern. The analog to Albion-Scipio is an apt one. The development of that field demonstrates the wastefulness of the competitive development on rigid units. The many on-pattern dry holes in this field support the conclusion that unitized development is the least wasteful and most productive method of development. The waste that is now occurring through unnecessary or poorly structurally placed wells will be doubled under the petitioner's proposal.

8. In view of the foregoing it is obvious that off-pattern penalties for wells in the Stoney-Point Field are inappropriate. I, therefore, find that a well located anywhere on a unit not closer than 330 feet from a unit boundary shall be entitled to a full allowable. This is because drainage is not uniform, and the only way that all interested parties can recover their fair share of the reservoir is by having the flexibility to locate optimally in relation to the fracture system and porosity development.

Because of the way the fractures are distributed the drilling of lateral drain holes has the potential to increase ultimate recovery. I therefore find that each unit is allowed a producing lateral drain hole provided that the well bore be located no closer than 330 feet from a unit boundary.

9. The record shows that some wells are inefficient and have begun coning gas. This is a waste of reservoir energy. In view of the fact that this order provides an increase in allowables for those wells currently limited to a half allowable and the concern of the Supervisor about waste of reservoir energy, a new allowable is established. It is the opinion of the Supervisor that the current method of field development will lead to a substantial loss of oil and gas if the field is not unitized. To prevent the waste of reservoir energy a new allowable is established at 175 Mcf gas per day and/or 110 barrels of oil per day for a period of two years.

10. The Supervisor is concerned that further engineering analysis is necessary to fully understand the reservoir mechanics. While geologic data seems relatively abundant the engineering and reservoir data need development. The record in this case shows the confusion caused from current production data. A good thorough analysis is necessary to assure that recoveries are optimized and waste is avoided. It is out of concern about the need for this data that a two-year limitation on the allowable has been set. It is the opinion of the Supervisor that the operators must come forward with data to justify continued production and propose a production level to maximize recovery of reservoir products.

CONCLUSIONS OF LAW

1. 1939 PA 61, as amended, at Section 13, states in part as follows:

"A drilling unit, as contemplated herein, means the maximum area which may be efficiently and economically drained by 1 well ..."

2. R 299.1203 of the rules promulgated pursuant to 1939 PA 61, as amended, provides in part:

"The development of an oil or gas field following the completion of a discovery well may warrant the adoption of a drilling unit and well spacing pattern other than that specified in rule 201(a)."

3. 1939 PA 61, as amended, at Section 4 states:

"It shall be unlawful for any person to commit waste in the exploration for or in the development, production, or handling or use of oil or gas; or in the handling of any product thereof."

Section 6 mandates that,

"The Supervisor shall prevent the waste prohibited by this Act."

and further provides

"...the supervisor, after consulting with the board, is specifically empowered:

(j) To fix the spacing of wells and to regulate the production therefrom.

(k) To require the operation of wells with efficient gas-oil ratios and to fix such ratios."

DETERMINATION AND ORDER

Based on the evidence presented and after consulting with and considering the recommendation of the Advisory Board, it is the opinion of the Supervisor that an amendment to Order No. 4-4-84, as amended, is necessary for the development of the lands described in that order, as amended, and to enhance ultimate recovery from the Stoney Point Field.

Now, Therefore, It is Ordered:

1. A drilling unit in the Stoney Point Field shall continue to consist of a quarter-quarter section of land containing 40 acres, more or less.

2. Order No. 4-4-84, as amended, is hereby amended to permit a well on each drilling unit to be located anywhere no closer than 330 feet from a unit boundary.

3. The operators in the field, in conjunction with the Proration and Technical Evaluation Unit of the Geological Survey Division, shall form a Reservoir Evaluation Committee to gather engineering and production data, evaluate the reservoir, and make recommendations to optimize production and recommendations on the feasibility of unitization. The Proration and Technical Evaluation Unit shall call for a meeting of the operators to form the Committee.

4. All wells are allowed to produce for two years from the effective date of this order. The allowable is set at 110 barrels of oil per day and/or 175 Mcf of gas per day. The provisions of Order 4-4-84 and Order (A) 12-3-85 providing for partial allowable are hereby deleted from those Orders, and all wells currently operating at partial allowables may be hereafter produced at the allowable rate.

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In order to establish production rates beyond two years from the effective date of this order it shall be necessary for the operators to come forward with data to propose efficient production methods and rates.

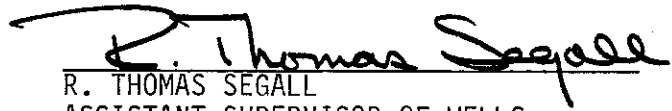
5. The Supervisor shall retain jurisdiction to assure that reasonable efforts and progress are made toward the unitized operation of the field.

6. The operators shall file such progress reports as the Supervisor shall require.

7. This order shall become effective May 1, 1989.

Dated:

4/10/89


R. THOMAS SEGALL
ASSISTANT SUPERVISOR OF WELLS

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES

ORDER OF THE SUPERVISOR OF WELLS

IN THE MATTER OF

THE PETITION OF THE STAFF OF THE)	
GEOLOGICAL SURVEY DIVISION TO AMEND)	ORDER NO. (A) 12-3-85
ORDER NO. 4-4-84, A SPACING ORDER)	Effective: May 29, 1985
FOR THE STONEY POINT TRENTON-BLACK)	Order No. 4-4-84 Amended
RIVER FORMATION FIELD)	

OPINION AND ORDER

On March 18, 1985 a public hearing was held before the Supervisor of Wells. The hearing was conducted pursuant to 1939 PA 61, as amended, and the promulgated rules. The purpose of the hearing was to consider the Petition of the Staff of the Geological Survey Division to amend Order No. 4-4-84 for the Stoney Point Trenton-Black River Formation Field.

FINDINGS OF FACT

1. The Petitioner, the Staff of the Geological Survey Division, has asked for the amendment of Order No. 4-4-84. The order establishes spacing and proration for the Stoney Point Trenton-Black River Formation Field. The Petition asks that the boundaries of the field be expanded to include additional lands. The Petition also requests a spacing pattern be established for those acres where major survey corrections were made.

Further, they seek to provide for exceptions to the no flare requirements of the order.

2. The development of the Trenton-Black River Formation Field has shown that additional areas should be included within Order No. 4-4-84 to assure the orderly development of the field. Those areas are Sections 6, 7, 17, and 20, T4S, R2W, Hanover Township, Jackson County; Sections 1, 2, and 12, T6S, R2W, Adams Township, Hillsdale County.

3. Order No. 4-4-84 imposed a no-flare order on lands within the spaced area following completion of a processing plant. It is necessary to amend the order to allow for a testing period and to provide for exceptions for low volume isolated wells.

4. Major survey corrections were made within Sections 6 and 7 of Hanover Township, Jackson County. To provide for the development of this area, prevent the drilling of unnecessary wells and protect correlative rights it is necessary to provide specific unit descriptions, well locations and proration for units within the correction area. These areas are $N\frac{1}{2}$ $NE\frac{1}{4}$ and $W\frac{1}{2}$ Section 6 and $W\frac{1}{2}$ $W\frac{1}{2}$ Section 7 Hanover Township.

5. Those wells within or permitted to be drilled in the area to be added to Order 4-4-84 shall be considered at a regular location.

CONCLUSION OF LAW

R 299.1203 provides for the adoption of special spacing orders to apply to a designated area, field, pool, or geologic formation. I conclude as a matter of law, that Order No. 4-4-84 should be amended to include additional lands within the field.

DETERMINATION AND ORDER

Based on the evidence presented it is the opinion of the Supervisor that an amendment to Order No. 4-4-84 is necessary. Now, therefore, It is Ordered:

1. Order No. 4-4-84 is amended to include the following described lands:

- A. Sections 6, 7, 17 and 20, T4S, R2W, Hanover Township, Jackson County.
- B. Sections 1, 2, and 12, T6S, R2W, Adams Township, Hillsdale County.

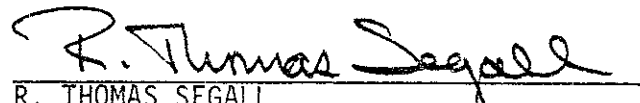
2. Those wells completed or permitted prior to the effective date of this order, on units within the areas included by this amendment, shall be considered to be at a regular location. Should such prior declared units in Section 6 of Hanover Township, Jackson County, be contrary to those units shown on Exhibit "B" attached, then the Supervisor may administratively reorient adjacent units in a manner consistent with this order.

3. Within the $N\frac{1}{2}$ of $NE\frac{1}{4}$ and $W\frac{1}{2}$ of Section 6, Hanover Township, Jackson County, units shall be oriented as shown on Exhibit "B" attached; wells may be located no closer than 400 feet to the unit boundary for a full allowable and no closer than 330 feet to the unit boundary for a half-allowable.

4. Within the $W\frac{1}{2}$ of $W\frac{1}{2}$ of Section 7, Hanover Township, Jackson County, wells permitted on or after the effective date of this order shall be located in accordance with Order No. 4-4-84; however, the allowable production shall be half of that allocated by Order No. 4-4-84.

5. An exception to the no flare provisions of Order No. 4-4-84 is granted for a testing period not to exceed two weeks for each new well. A permanent exception to the no flare provisions may be granted by the Supervisor, for individual wells, on a case by case basis, after considering the volume of gas produced and proximity to pipelines.

Dated: May 29, 1985


R. THOMAS SEGALL
ASSISTANT SUPERVISOR OF WELLS

PROPOSED EXPANSION OF STONY POINT TRENTON - BLACK RIVER TREND FIELD

PROPOSED DRILLING UNITS FOR
SECTION 6 HANOVER TWP., JACKSON CO.

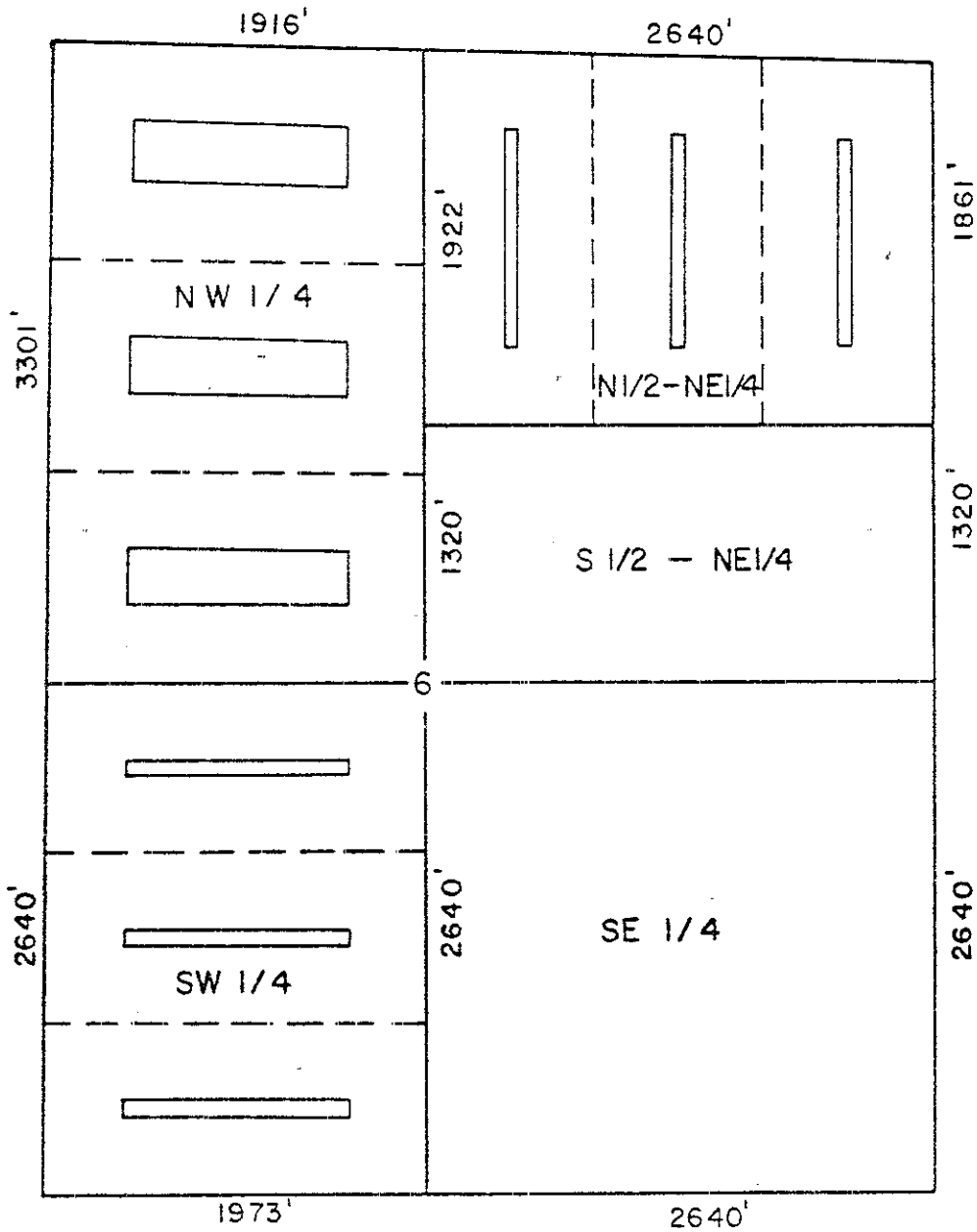


Exhibit B

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
SUPERVISOR OF WELLS

Cause No. 4-4-84: Petitions to determine the appropriate spacing and proration for the Stoney Point Trenton-Black River Formation Pool

OPINION AND ORDER OF THE SUPERVISOR OF WELLS

On April 24, 1984, a public hearing was held before the Supervisor of Wells and the Oil and Gas Advisory Board. The hearing was conducted pursuant to 1939, P.A. 61, as amended, and the promulgated rules. The purpose of the hearing was to consider petitions to determine the appropriate spacing and proration for the Stoney Point Trenton-Black River Formation Pool.

FINDINGS OF FACT

1. The Petitioner, JEM Petroleum Corporation, is the operator of wells in the Stoney Point, Trenton-Black River Formation Field. The field has been developed under the R 299.1201 spacing requirements. That is, the drilling units are 40 acres consisting of a quarter-quarter section of land. The wells are located in the center of the southeast quarter of the unit. During the development of the field, production has been voluntarily set at 220 barrels of oil per day and/or 300 MCF per day of gas. The production is sour and gas has been flared awaiting installation of a gas plant. To date 26 wells have been drilled and an additional 8 are permitted. There are 16 producers, 5 dry holes, and 5 wells are undetermined.

2. The Petitioner has requested that a spaced area for the field be established for the following described area:

Sections 30, 31, and 32, T.4S., R.2W., Hanover Township, Jackson County, and Sections 5, 6, 8, and 9, T.5S., R.2W., Moscow Township, Hillsdale County.

Petitioner proposed 40-acre spacing with well location anywhere not less than 460 feet from an adjoining drilling unit for a full allowable and less than 460 feet but not less than 330 feet from an adjoining drilling unit subject to a 50% proration penalty.

The Petitioner, further proposes, that the full allowable for the field be 220 barrels of oil per day and/or 300 MCF of gas per day.

3. The Supervisor expanded the notice of hearing to consider the inclusion in a spacing order of the following described lands:

Jackson County, Hanover Township, T.4S., R.2W.,
Sections 18, 19, 29, 30, 31, and 32
Jackson County, Pulaski Township, T.4S., R.3W.,
Sections 1, 2, 3, 4, 9 thru 16, 22 thru 26, and 36.
Hillsdale County, Scipio Township, T.5S., R.3W.,
Section 1.
Hillsdale County, Moscow Township, T.5S., R.2W.,
Sections 4 thru 10, 15, 16, 17, 20, 21, 22, 23,
26, 27, 28, 29, 34, 35, and 36.

Further, it was proposed that spacing orders in conflict with the proposed spacing area be abrogated or amended.

4. The Trenton-Black River Formation in the Stoney Point Field is a narrow fracture along a northwest-southeast axis. The reservoir is highly variable. The Trenton Formation is generally a tight limestone. The Black River is also generally tight with sections of permeable dolomite. The main portions of the fracture offer fairly good permeable sections. In other locations thin sections or fingers may be very productive. The producing zones all appear to be interconnected. The pressure drop from production in the field has been uniform with communication exhibited throughout the length of the field. I find, as a matter of fact, that one well per 40 acres will effectively and economically drain the reservoir.

The Petitioner has requested a per well allowable production rate of 220 barrels of oil per day and/or 300 MCF of gas per day. This allowable production rate is twice that of the Albion-Scipio Field which has twice the proposed well density. It was the opinion of the Petitioner that the wells could be efficiently produced at the proposed rate without waste.

The Staff of the Geological Survey Division proposed a daily well allowable of 150 barrels of oil per day and/or 230 MCF of gas. They based this proposed rate on the average production rate according to production reports for the field. Further, based upon the history of production in the Albion-Scipio Field there was concern that damage to the reservoir could occur from higher production rates.

I find, as a matter of fact, that production rates of 150 barrels of oil per day and/or 230 MCF of gas are necessary to prevent waste. It is inappropriate to establish a rate double that of the Albion-Scipio Field because of lesser well density. The fact remains that a single well bore would be produced twice as hard with the potential for damage. The porous dolomite that yields such good production from a thin pay zone can cone water or gas in very short order. The characteristics that make the field a good producer also are cause for caution.

5. The Petitioner has proposed a 330-460-foot slot tolerance for wells to be drilled in the field. Wells drilled between 330 and 460 feet of a unit line would be half allowable wells. The Staff has proposed that wells be drilled in the SE $\frac{1}{4}$ of the unit with the well located not closer than 330 feet from a unit boundary for a full allowable. Wells drilled anywhere else on the unit not closer than 330 feet from the unit line would be 1/2 allowable wells.

Since there have been so many wells drilled in the pool in the SE $\frac{1}{4}$ of the unit, it would be inequitable to establish a different pattern at this time. However, the variability of the reservoir must be recognized. It is my opinion that the Staff proposal allows for reasonable development and protects correlative rights.

CONCLUSIONS OF LAW

1. R 299.1203 provides for the adoption of special spacing orders to apply to a designated area, field, pool, or geological formation. Further, 1939 P.A. 61, as amended states: "A drilling unit, as contemplated herein, means the maximum area which may be efficiently and economically drained by one well."

2. The Supervisor after considering the recommendation of the Advisory Board may restrict the allowable rate of production in a field to prevent waste. (1939, P.A. 61, Sec. 13.)

DETERMINATION AND ORDER

Based on the evidence presented, and after consulting with the Advisory Board, it is the opinion of the Supervisor that a special spacing and proration order is necessary for the development of the Stoney Point Field. Now, therefore, It is Ordered:

1.) The Stoney Point Trenton-Black River Formation Field is established for the following area:

Jackson County, Hanover Township, T.4S., R.2W.,
Sections 18, 19, 29, 30, 31, and 32
Jackson County, Pulaski Township, T.4S., R.3W.
Sections 1, 2, 3, 4, 9 thru 16, 22 thru 26, and 36.
Hillsdale County, Scipio Township, T.5S., R.3W.,
Section 1.
Hillsdale County, Moscow Township, T.5S., R.2W.,
Sections 4 thru 10, 15, 16, 17, 20, 21, 22, 23,
26, 27, 28, 29, 34, 35, and 36.

2.) A drilling unit shall consist of a quarter-quarter section of land containing 40 acres, more or less.

Wells are to be drilled in the SE $\frac{1}{4}$ of the unit not closer than 330 feet from the unit boundaries for a full allowable. Other wells drilled on a unit may be drilled at a location at least 330 feet from a unit boundary and shall be 1/2 allowable locations.

3.) The full allowable production rate for wells in the field shall be 150 barrels of oil per day and/or 230 MCF of gas per day. Penalty location wells shall receive a one-half allowable production rate.

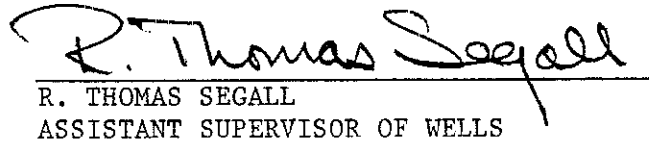
4.) As long as gas is not gathered and marketed from a well, that well shall be limited to one-half the basic allowable per day for that well. Within 60 days of completion of a gas processing plant all wells shall cease the flaring of produced gas.

5.) The Spacing Order for the Hanover Trenton-Black River Formation Pool, effective July 16, 1959, is abrogated.

6.) The Spacing order for Albion-Scipio Trenton-Black River Formation Trend Field..., amended, effective date December 1, 1966, and the Amendment No. 39 to Proration Order No. 23, effective date July 1, 1961, are amended to delete the following described lands:

Section 1 of T.5S., R.3W., Scipio Township, Hillsdale County,
and Section 20, 28, 29, and 34 of Moscow Township, T.5S.,
R.2W., Hillsdale County.

Dated: June 1, 1984


R. THOMAS SEGALL
ASSISTANT SUPERVISOR OF WELLS